



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/551,124

09/26/2005

Toru Inoue

1089.45436X00

4032

20457 7590 07/07/2008
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

CHANG, VICTOR S

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

07/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,124	Applicant(s) INOUE ET AL.	
	Examiner Victor S. Chang	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008 and 09 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 7-11, 19 and 23-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6, 12-18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/15/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Applicants' amendments and remarks filed on 1/11/2008 have previously been entered. Claims 1-26 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In response to the species election and amendments, the grounds of rejections have been updated as set forth below. Rejections not maintained are withdrawn.

Election/Restrictions

4. Applicant's election of Species C.a. (a resonance layer of film layer) in the reply filed on 4/9/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims are 1, 5, 6, 12-18 and 20-22. Claims 2-4, 7-11, 19 and 23-26 are withdrawn.

Rejections based on Prior Art

5. Claims 1, 5, 6, 12-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucca et al. [US 4966799].

Lucca's invention relates to a vehicle noise reducing element (sound insulator) [abstract]. Fig. 2 shows that the element contains a first sound-absorbing layer 21 (sound absorption layer)

Art Unit: 1794

consisting of a thermoformed fiber mat bonded with a thermoplastic, a supporting layer 23 consisting of a solid (air impermeable) thermo plastic sheet material (resonance layer), and a heat-sealable adhesive layer 27 between the two layers [col. 2, ll. 59 through col. 3, ll. 6]. Useful fiber mat for the sound-absorbing layer 21 has a low density of $50\text{-}150\text{ kg/m}^3$ ($0.05\text{-}0.15\text{ g/cm}^3$) [col. 3, ll. 49-55]. Mineral fillers or glass fiber can be (optionally) added to polyolefin, polyamide, polyester, etc., to form the supporting layer 23 for an increased mechanical strength [col. 4, ll. 1-12]. The thickness of the element can be adapted to specific use requirements. For example, an element which is to be used as a sound insulator and needs to have little mechanical stability but good sound absorption should possess a relatively thin supporting layer and a comparatively thick padding layer. In embodiments of the structural element (i.e., sound insulator with improved mechanical strength) which have been tested in practice, the thickness of the supporting layer is 1-10 mm and that of the padding layer 5-50 mm. The thickness of the supporting layer 23 is 1-10 mm and that of the padding layer 21 is 5-50 mm [col. 3, ll. 29-44].

For claims 1, 5, 12-14, 17, 21 and 22, Lucca is silent about: 1) the useful thickness range and the area weight of the supporting layer; 2) the adhesion peel strength between the sound-absorbing layer 21 and the solid supporting layer 23. However, regarding 1), since Lucca teaches that the thickness of the element can be adapted to specific use requirements, and for element which is to be used as a sound insulator and needs to have little mechanical stability but good sound absorption, the supporting layer should be thin, a workable thin supporting layer and the resulting related low area weight are deemed to be an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain good sound absorption. Regarding 2), since Lucca teaches the same subject matter of the same structure and composition, and for the

Art Unit: 1794

same use as the claimed invention, a workable adhesion peel strength is deemed to be either anticipated by Lucca, or obviously provided by practicing the invention of prior, dictated by the same utility as the claimed invention. Regarding the % adhesion area between the sound-absorbing layer 21 and the solid supporting layer 23, it is read upon by Lucca's Figs. 1-3, which show that all the layers are coextensive, i.e., 100% adhesion area. Finally, regarding the orientation of the sound insulator in use, since they do not serve to distinguish structure of the claimed invention over the prior art, they have not been given any patentable weight. *In re Pearson*, 494 F.2d 1399, 1403, 181 USPQ 641, 644 (CCPA 1974).

For claims 6, 16 and 20, since Lucca teaches that the noise reducing structural element has sufficient compressive strength [col. 1, ll. 63-66], a workable initial compression repulsive force is deemed to be either anticipated by Lucca, or obviously provided by practicing the invention of prior, dictated by the same end use requirements as the claimed invention.

For claims 15 and 18, since Lucca anticipates the thickness and density of the claimed invention, so as the area weight of the claimed invention.

Response to Arguments

6. Applicants argue at Remarks page 12 that

“The Lucca et al. patent discloses that the supporting layer has an density of 1.5 to 2.5 Kg/l (= 1.5 to 2.5 Kg/dm³ = 1500 to 2500 kg/m³) (1dm = 1/10 m, 1dm³ = 1/1000 m³) and a thickness of 1 to 10 mm (see column 3, lines 41-44, column 4, lines 1 - 5, and claim 8 of Lucca et al.). The area- weight thereof is thus calculated to be 1.5 to 2.5 Kg/m² when the thickness is 1 mm, and 15 to 25 Kg/m² when the thickness is 10 mm. Accordingly the area-weight of the supporting layer is calculated to be 1.5 to 25 Kg/m².”

However, Lucca merely stated that the tested thickness range of the supporting layer, as set forth above. Nowhere has Lucca set the minimum thickness of workable supporting layer. To the

Art Unit: 1794

contrary, Lucca expressly teaches that an element which is to be used as a sound insulator and needs to have little mechanical stability but good sound absorption should possess a relatively thin supporting layer and a comparatively thick padding layer. The examiner maintains that a workable thin supporting layer and the resulting related low area weight are deemed to be an obvious routine optimization to one of ordinary skill in the art, as taught by Lucca, motivated by the desire to obtain good sound absorption.

Applicants argue at page 13 that

“If the heavy-weight sound insulator disclosed in Lucca et al. is to be applied to a conventional ultra-light sound insulator, a person of ordinary skill in the art would have reason to adopt an insulator without an adhesive layer or adopt an adhesive layer having a minimum strength to prevent the supporting layer from dropping off the sound absorption layer.”

However, the fillers added to the supporting thermoplastic layer are disclosed by Lucca as optional, as set forth above, applicants' argument is misplaced. Further, contrary to applicants' unsupported speculation, applicants are reminded that Lucca expressly teaches that an adhesive layer is required to bond the sound absorption layer to the supporting layer.

Applicants argue at pages 14-19 that

“The resonance mechanism in Lucca et al. is also different from the resonance mechanism of the present invention.”

However, since Lucca's teachings encompasses the structure and composition of the claimed invention, and they are for the same end use, it unseen any resonance mechanism is being excluded by Lucca's sound insulator.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 7:00 am - 5:00 pm, Tuesday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1794

10/19/2007